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17 JAN 1968

T.O. 33A1-12-153-1

HANDBOOK
OPERATION AND SERVICE INSTRUCTIONS

TEST SET, RADIO AN/URM-76A

PART NO. 708159-1

(THE MAGNAVOX COMPANY)

This publication replaces T.O. 33A1-12-153-1 dated 18 July 1958.

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TABLE OF CONTENTS

Section		*Page*
I	INTRODUCTION AND DESCRIPTION	1
1-1.	Scope of Handbook	1
1-3.	Purpose and Capabilities of Equipment	1
1-5.	General Construction	1
1-7.	Simplified Principle of Operation	2
II	SPECIAL SERVICE TOOLS	3
2-1.	Service Tools	3
2-3.	Test Equipment	3
III	PREPARATION FOR USE, STORAGE, OR SHIPMENT	3
3-1.	Preparation for Use	3
3-3.	Preparation for Storage	3
3-5.	Preparation for Shipment	3
IV	OPERATION INSTRUCTIONS	3
4-2.	Connection and Operation Modes	3
V	PERIODIC INSPECTION, MAINTENANCE, AND LUBRICATION	5
VI	TROUBLE SHOOTING	5
6-1.	Trouble Shooting Procedure	5
VII	CALIBRATION	5

LIST OF ILLUSTRATIONS

Figure		*Page*
1-1.	Test Set, Radio, AN/URM-76A, Magnavox Part No. 708159-1.	ii
1-2.	Test Set, Radio, AN/URM-76A, Meter Chart.	1
1-3.	Test Set, Radio, AN/URM-76A, Magnavox Part No. 598075REV-B.	7

LIST OF TABLES

Table		*Page*
I	Selector Switch Settings	4
II	Trouble Shooting Chart	5

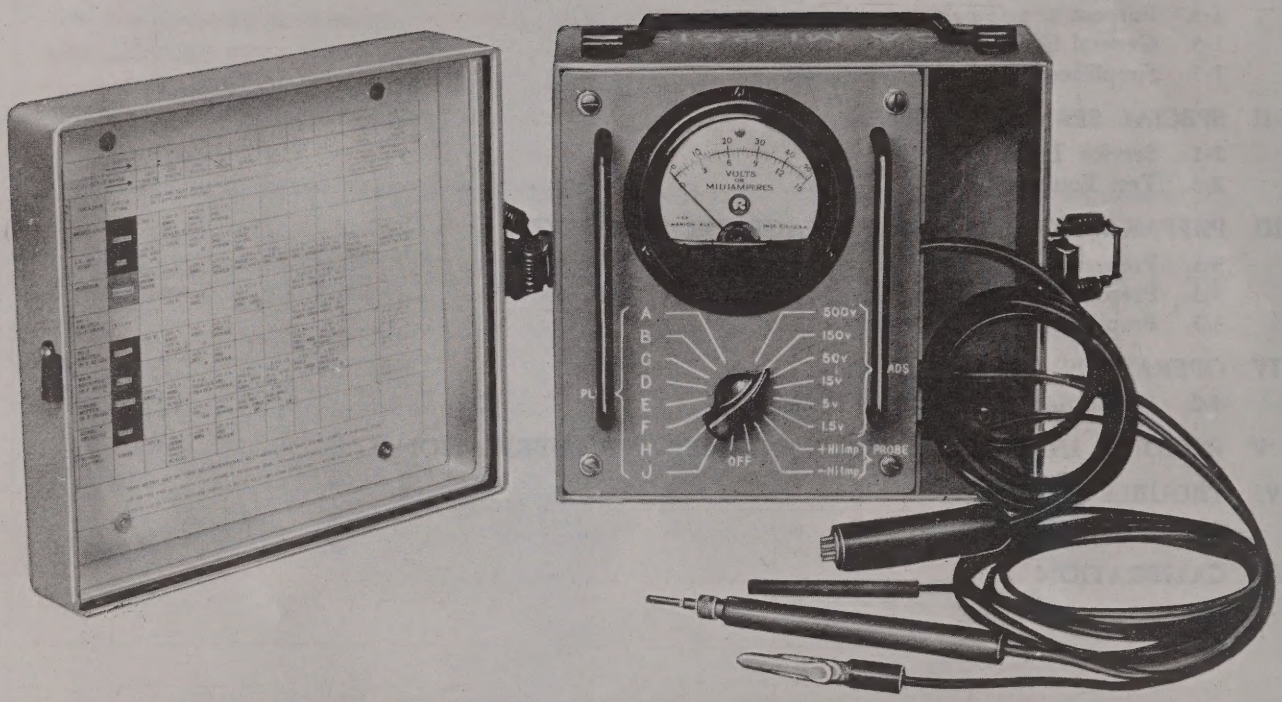


Figure 1-1. Test Set, Radio AN/URM-76A, MAGNAVOX PART NO. 708159-1.

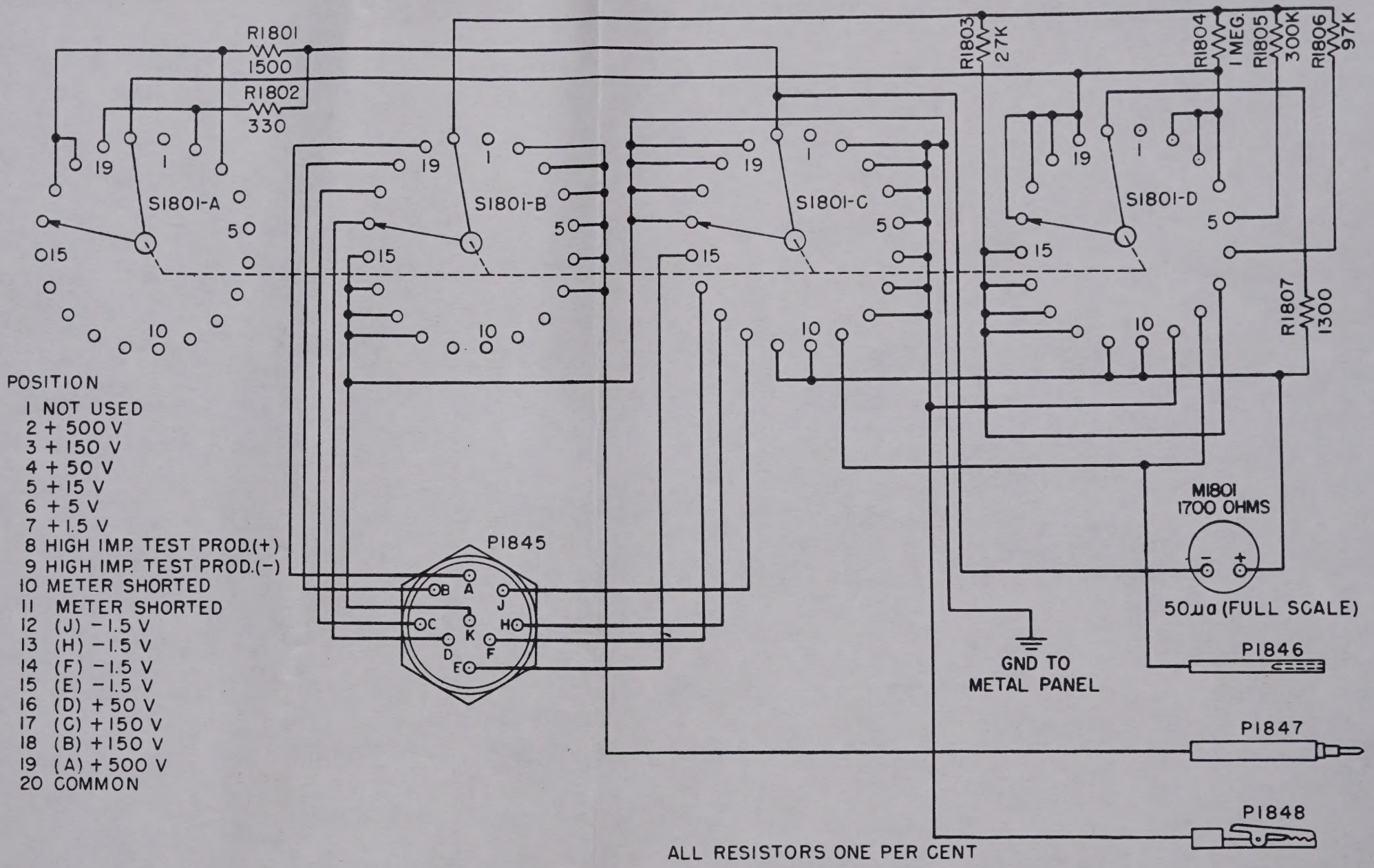


Figure 7-1. Test Set, Radio AN/URM-76A, Schematic Diagram, Magnavox Part No. 598075REV-B.

SECTION I

INTRODUCTION AND DESCRIPTION

1-1. SCOPE OF HANDBOOK.

1-2. This publication provides information for the preparation for use, operation, and maintenance of Radio Test Set AN/URM-76A (figure 1-1).

1-3. PURPOSE AND CAPABILITIES OF EQUIPMENT.

1-4. Radio Test Set AN/URM-76A (hereafter called Test Set) is designed to locate trouble rapidly in Radio Set AN/ARC-34 or Radio Set AN/ARC-66. One switch provides a selection of connections and voltage ranges for checking the major circuits of the system. Connections to the chassis under test are made by a nine-pin plug and receptacle arrangement or by test leads to special test terminals on the chassis.

1-5. GENERAL CONSTRUCTION.

1-6. The components of the Test Set are panel mounted to the test meter panel. This assembly is secured in a transit case by four special captive screws. The panel has two raised handles which offer some protection for

LEGEND R= RECEIVE ONLY
GR= GUARD RECEIVE ONLY
T= TRANSMIT ONLY

TEST SET, RADIO
AN/URM-76A

TEST METER SWITCH POSITION →			A	B	C	D	E	F	H	J	HIGH IMP. (-)	HIGH IMP. (+)
METER FULL SCALE RANGE →			+500 VOLTS	+150 VOLTS	+150 VOLTS	+50 VOLTS	-1.5 VOLTS	-1.5 VOLTS	-1.5 VOLTS	-1.5 VOLTS	-0.15 VOLTS	+0.15 VOLTS
TEST JACK NO.	LOCATION	COLOR CODE	NINE-PIN TEST PLUG (PI845) CONNECTED TO ONE OF TEST JACKS LISTED IN LEFT-HAND COLUMN								USE SPECIAL TEST PROBE (PI846) ON EXTERNAL TEST POINTS CONNECT ALLIGATOR CLIP (PI848) TO GROUND	
J1303	PP-2035/ARC-34X	BLACK	+310 TO +350 V	+115 TO +145V		+24.5 TO +30.5 V						
J1402	PP-1990/ARC-34A	BLACK	+320 TO +360 V	+115 TO +130V		+27 TO +29 V						
J2001	PP-3086/ARC-34	BLACK	+270 TO +390 V	+105 TO +150V		+26 TO +27.5 V PRI. POWER						
J151	MD-198/ARC-34 MD-420/ARC-34B	BROWN	+325 TO +365 V	+315 TO +345V XMIT.	+300 TO +335V MOD. T	+26 TO +27.5 V PRI. POWER						
J352	R-568/ARC-34 MX-6591/ARC-34C MX-3552/ARC-34B	RED	+115 TO +130V GR. GD RCVR.	+115 TO +130V	+115 TO +130V RCVR. R	+26 TO +27.5 V PRI. POWER	-.2V MIN 2ND. INJ. OSC.					
J453	MX-1489/ARC-34 MX-6592/ARC-34C MX-3551/ARC-34B	ORANGE	+325 TO +365V PERMISSIVE	+115 TO +130V	+128 TO +132V REG.	+26 TO +27.5V PRI. POWER	-.3V MIN. 4TH. OSC. GRID	-.4V MIN. 3RD. OSC. GRID	-.3V MIN. 2ND. OSC. GRID	-.5V MIN. 1ST. OSC. GRID	J462 >-15 VOLTS DISCR. TEST	J463 +5.5 TO +6.5 DISCR. OUTPUT
J544	EXCITER NO. 1 AM-868/ARC-34 AM-3048/ARC-34B	YELLOW		+110 TO +125 V	+128 TO +132V REG.		-.5V MIN. SIDESTEP OSC. GRID T		-.9V MIN: 2ND. DBLR. GRID	-.5V MIN. 1ST. DBLR. GRID		
J555	EXCITER NO. 2 AM-868/ARC-34 AM-3048/ARC-34B	GREEN	+225 TO +290V	+280 TO +325V XMIT	+112 TO +128V XMIT	+26 TO +27.5 V PRI. POWER			-.6V MIN 2ND. GRID T	-.1V MIN 1ST AMPL GRID T		
J656	MAIN RECEIVER AM-868/ARC-34 AM-3048/ARC-34B	BLUE			+115 TO +130V RCVR. R	+26 TO +27.5V PRI. POWER			-.3V MIN. RCVR. MIX. GRID R	-.4V MIN RCVR. MULT. GRID		J634 IPA Ip T 18 TO 50 MA (50 MA SCALE)
J637	TRANSMITTER AM-868/ARC-34 AM-3048/ARC-34B	PURPLE	+305 TO +325V XMIT.	+300 TO +335V MOD. T	6.3V TRIPLER HEATER	+26 TO +27.5 V PRI. POWER	-.2V MIN. P.A. V604 GRID T	-.2V MIN. P.A. V603 GRID T	-.2V MIN. IPA GRID T	-.6V MIN. TRIPLER GRID T		J635 PA Ip T 55 TO 100 MA (150 MA SCALE)
J758	R-567/ARC-34 R-1077/ARC-34B	GRAY			+115 TO +130V GD. GR.	+26 TO +27.5V PRI. POWER	-.15V MIN. GD RCVR. MIX. GRID GR	-.2V MIN. GD RCVR. MULT. GR				J636 T 1.0 TO 5.0 V SIDETONE BIAS
J1059	C-1256/ARC-34	WHITE	+325 TO +360 V	+200 TO +240V PERMISSIV	+128 TO +132 V REG.	+26 TO +27.5 V PRI. POWER						
	C-3762/ARC-34B		+325 TO +360 V PERMISSIVE	20 TO 27V MOTOR								
REF MX DWG 598646REVA			TEST METER MAY BE USED AS CONVENTIONAL VOLTMETER. RED TEST PROBE (PI847) IS POSITIVE SIDE OF METER AND ALLIGATOR CLIP (PI848) IS NEGATIVE SIDE. SCALES AVAILABLE ARE 500 VOLTS, 150 VOLTS AND 50 VOLTS AT ONE MEGOHM INPUT; 15 VOLTS AT 0.3 MEGOHM INPUT; AND 1.5 VOLTS AT 30K OHM INPUT.									

Figure 1-2. Test Set, Radio AN/URM-76A, Meter Chart

the multi-scale meter and selector knob. Space is also provided to retain the nine-pin plug and test leads inside of the transit case. The transit case is equipped with a splash-tight cover that is retained by two spring-loaded latches.

1-7. SIMPLIFIED PRINCIPLE OF OPERATION.

1-8. When the Test Set is used for trouble shooting Radio Set AN/ARC-34 subassemblies or Radio Set AN/ARC-66 subassemblies, a trouble analysis chart is provided for the chassis under test. For general trouble shooting a meter chart is located inside of the transit case cover (see figure 1-2). The trouble analysis chart will include step-by-step instructions, test points, selector switch positions, normal voltage readings, circuits under test, and a remarks column (special instructions). When the trouble analysis chart is used, the nine-pin plug, or the ground lead with the high-impedance or voltage probe of the Test Set, is inserted or connected to a recommended receptacle (located on the chassis under test).

1-9. The high-impedance probe is used with the ground lead to check special circuits as recommended in the Analysis or Voltage Point Test charts.

1-10. The voltage test probe is used for reading direct voltages. The ground lead must be connected to the chassis under test. Voltages from "0" to "500" volts may be read on the meter of the Test Set.

SECTION II

SPECIAL SERVICE TOOLS

2-1. SERVICE TOOLS.

2-2. No special service tools are required to operate or maintain the Test Set.

2-3. TEST EQUIPMENT.

2-4. No special test equipment is required to operate the Test Set. All components are of the fixed value type and require no adjustment. A trouble shooting chart is provided in Section IV of this handbook to assist in locating trouble rapidly.

SECTION III

PREPARATION FOR USE, STORAGE, OR SHIPMENT

3-1. PREPARATION FOR USE.

3-2. Normal procedure can be followed in preparing the Test Set for use. It is suggested that the nine-pin plug and cable, the high-impedance probe, and the voltage test probe remain on the inside of the transit case, when not used. This will prevent unnecessary entanglement which could cause damage to the Test Set.

3-3. PREPARATION FOR STORAGE.

3-4. In storing the Test Set, take care to prevent leads, grease, chemicals, or any matter from damaging the rubber grommet around the inside cover of the transit case. Damaging the rubber grommet around the cover will weaken the insulation and permit water to splash into the case when exposed.

3-5. PREPARATION FOR SHIPMENT.

3-6. The Test Set, test leads, cable, probes, and plug should be secured inside of the transit case to prevent them from movement or possible damage during shipment.

SECTION IV

OPERATION INSTRUCTIONS

CAUTION

Before connecting the Test Set to any equipment, turn the selector switch to position "A." Position "A" permits potentials up to 500 volts to be read on the Test Set meter and offers reasonable protection for the 1.5-volt full scale reading. This precaution should always be taken when working with faulty equipment.

4-1. The Test Set requires no initial warm-up, and is ready for use after the proper connections are made between it and the equipment under test.

4-2. CONNECTION AND OPERATION MODES.

4-3. When a meter chart or a trouble analysis chart is available the nine-pin plug or the high-impedance probe and ground lead may be used. The Test Set meter and the selector switch are also used in conjunction with the charts. This operation will assist in locating the faulty circuits or components.

4-4. A voltage test probe is available for measuring direct-current voltages of 0 to 500 volts. This probe is used in conjunction with the ground clip, Test Set meter, and the selector switch.

4-5. The selector switch is a twenty-position switch that is turned to positions "A" through "J," "—HI-IMP" and "+HI-IMP" as per instructions from a trouble

analysis chart. A trouble analysis chart will also recommend the applicable connection.

4-6. The direct-current voltage probe is used (when feasible) to measure potentials not to exceed the selector switch settings listed in table 1.

4-7. The selector switch has two positions that are not used, and are located between "A" and "500V." The two "OFF" positions are located between "J" and "—HI-IMP."

TABLE I. SELECTOR SWITCH SETTINGS

Selector Position	*Meter Range*
"500V"	0 to 500 volts
"150V"	0 to 150 volts
"50V"	0 to 50 volts
"15V"	0 to 15 volts
"5V"	0 to 5 volts
"1.5V"	0 to 1.5 volts

SECTION V

PERODIC INSPECTION, MAINTENANCE, AND LUBRICATION

5-1. The Test Set requires no periodic inspection, maintenance, or lubrication under normal operating conditions.

5-2. For long life and dependable service the Test Set should always be cleaned and stored in a safe place when not in use.

SECTION VI

TROUBLE SHOOTING

6-1. TROUBLE SHOOTING PROCEDURE.

6-2. Table II includes indication of trouble, determination of its cause, and the necessary remedy for all troubles which may be encountered. It is assumed that the correct simulated voltages are available to trouble shoot the Test Set.

TABLE II. TROUBLE SHOOTING CHART

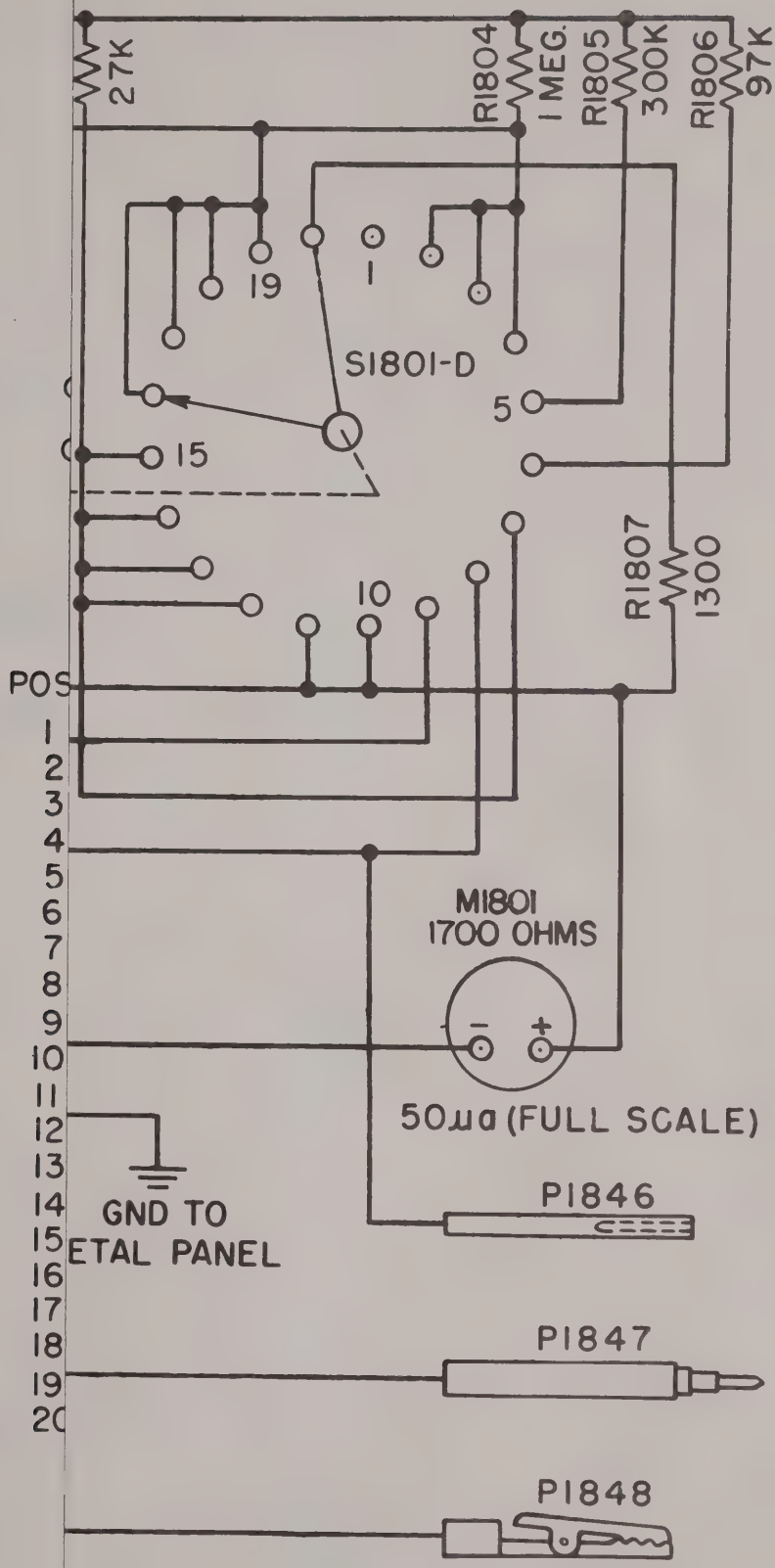
Trouble	*Probable Cause*	*Remedy*
No meter readings on certain selector switch positions between "A" and "J".	Broken continuity between the nine-pin plug connection and the selector switch (S1801-B and S1801-C).	Service or replace the nine-pin plug and cable.
No meter readings when selector is in the 500, 150, 50, 15, 5, or 1.5 volt positions.	Broken continuity between the direct voltage test probes and the selector switch (S1801-B or S1801-C).	Service or replace the ground lead or direct voltage test probe.
No meter readings when selector is in "HI-IMP" positions.	Broken continuity between the high-impedance probe and the selector switch (S1801-C or S1801-D).	Service or replace the ground lead or high-impedance probe.
No meter reading on any position.	Defective meter (M1801).	Replace meter (M1801).
High meter readings on position "C," "B," or "150V."	Defective meter shunt resistor (R1801).	Replace resistor (R1801).
High meter readings on position "A" or "500V."	Defective meter shunt resistor (R1801).	Replace resistor (R1802).
Not covered in this table.	Refer to schematic diagram (figure 7-1).	

SECTION VII

CALIBRATION

7-1. Components of the Test Set are of the fixed value type. No provision is made for adjustment or calibration.

7-2. The accuracy of the Test Set can be checked by measuring a known voltage and comparing the meter reading of the Test Set with the value of the known voltage.



hematic Diagram, Magnavox Part No. 598075REV-B.

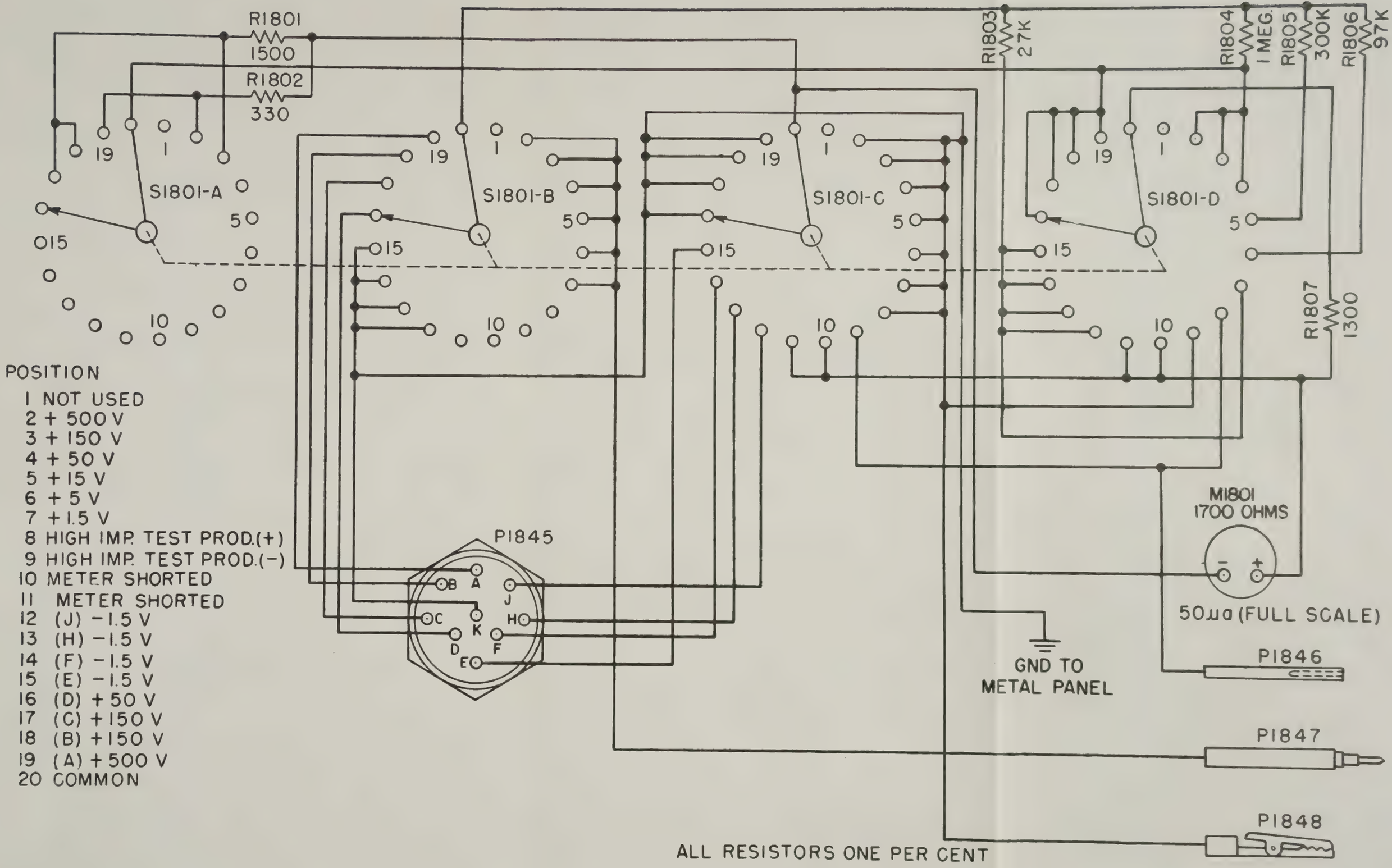


Figure 7-1. Test Set, Radio AN/URM-76A, Schematic Diagram, Magnavox Part No. 598075REV-B.

AIR COMM

T.O. 33A1-12-153-4

27 APR 1973

TECHNICAL MANUAL

ILLUSTRATED PARTS BREAKDOWN

TEST SET, RADIO AN/URM-76A

(RCA)

PUBLISHED UNDER AUTHORITY OF THE SECRETARY OF THE AIR FORCE

AFLC RAFB,GA

30 JANUARY 1960

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SECTION I

INTRODUCTION

1-1. GENERAL.

1-2. This Illustrated Parts Breakdown lists and describes the parts for the Radio Test Set, AN/URM-76A, part number 364939-501, manufactured by the Radio Corporation of America, Defense Electronic Products, Camden, New Jersey and is divided into four sections.

1-3. GROUP ASSEMBLY PARTS LIST.

1-4. The Group Assembly Parts List, Section II, consists of the complete test set listed in one main group broken down into its assemblies, sub-assemblies, detail parts and attaching parts.

1-5. FIGURE AND INDEX NUMBER.

1-6. Parts are identified by an index number appearing in the illustration of the assembly. These numbers are arranged in the first column in their natural order, which is also the correct order of disassembly.

1-7. PART NUMBER.

1-8. The manufacturer's part number is given in the second column. Prime manufacturer's part numbers are listed, except where more than one manufacturer is involved. The second manufacturer's code and part number is placed in the description column, parenthetically, immediately following the listing for the part.

1-9. DESCRIPTION.

1-10. The part descriptions are arranged in accordance with Federal Item Identifying Guide for Cataloging Handbook H-6-1. The component or major assembly is listed under numeral 1, and each assembly, sub-assembly or part is indented in the order of its relationship to the preceding assembly, subassembly or part. For example, all items under numeral 3 are parts of the item listed under numeral 2 directly above (exclusive of attaching parts).

1-11. Attaching parts are listed immediately following the item they attach and have the same indentation. A separation symbol (----*----) follows the listing of the attaching parts to distinguish them from the subsequent listing of items with the same or subordinate indentation.

1-12. VENDORS' CODE.

1-13. The complete listing of all vendors and their codes used in the description column is given immediately following.

CODE	VENDOR
02734	DEFENSE ELECTRONIC PRODUCTS DIVISION RADIO CORPORATION OF AMERICA Camden, New Jersey
76545	MUELLER ELECTRIC CO Cleveland, Ohio
76854	OAK MFG CO Chicago, Illinois
81312	WINCHESTER ELECTRONICS CO Glenbrook, Connecticut
83330	HERMAN H. SMITH, INC. Brooklyn, New York
95987	WECKESSER COMPANY Chicago, Illinois

1-14. UNITS PER ASSEMBLY.

1-15. The quantities listed in the "Units per Assy." column is the quantity required at that particular location. To obtain the quantity required for the complete unit, refer to the Numerical Index, Section III.

1-16. USABLE ON CODE.

1-17. This column has been left blank since all assemblies and components are used on all equipments.

1-18. NUMERICAL INDEX.

1-19. The Numerical Index, Section III, is arranged in the alphabetical and numerical order of part numbers; that is, those parts with letter prefixes are listed first, followed by the plain numbered parts in natural order moving one column at a time from left to right. The letter O is treated as a numeral zero. A part listed as "No Number" or "Coml" in the Group Assembly Parts List is listed in sequence considering the identifying noun as the part number.

1-20. CLASS CODE OR STOCK NUMBERS.

1-21. STOCK NUMBER COLUMN. The policy of including and updating stock number information in IPB manuals has been discontinued. Purging of stock numbers will be accomplished on a phased basis as changes are made to IPB pages to add or change other required information. See S-00-1-1, USAF Master Cross-Reference Index for converted part number to stock number information.

1-22. FIGURE AND INDEX NUMBER.

1-23. The third column of the Numerical Index lists all figures in which the part appears, to-

gether with pertinent index numbers. When the part is used several times in the same assembly under different index numbers, it is listed and described each time.

1-24. QUANTITY PER ARTICLE.

1-25. The fourth column gives the quantity of each part required for the complete equipment covered in the illustrated parts breakdown. When there are several models, the entry is the total for the model having the greatest number of the parts in question.

1-26. SOURCE CODE.

1-27. Source coding as applied to the numerical index has been assigned by the Procuring Department.

1-28. CODE "P" - PARTS UNDER INVENTORY STOCK CONTROL.

a. CODE "P" is applied to parts on which usage is anticipated or known. CODE "P" parts may be requisitioned and installed by any maintenance level unless followed by the letter "D" (depot) which restricts requisition and replacement to depot level only. Restricted service manufacture is considered practicable, but only after an attempt has been made to procure from supply sources.

b. CODE "P1" is applied to parts which are very difficult, impractical, or uneconomical to manufacture. CIDE "P1" parts may be requisitioned and installed by any maintenance level unless followed by the letter "D" (depot), which restricts requisition and replacement to depot level only.

1-29. CODE "M" MANUFACTURE - PARTS NOT PROCURED.

a. CODE "M" is applied to parts which are within the capabilities of any activity to manufacture. Procurement is not justified in view of relatively low usage, or storage and installation factors of these parts. Needs are to be met by local manufacturer only as required.

b. CODE "M1" is applied to parts which can be manufactured only by utilizing the capabilities of the depot. Procurement and stocking of these parts is not justified in view of their relatively low usage and installation factors. The needs of all activities are to be met through manufacture or by requisition from the nearest appropriate depot.

1-30. CODE "A" ASSEMBLY - ASSEMBLY NOT PROCURED.

a. CODE "A" is applied to assemblies made up of two or more parts, at least one of which is purchased and carries an individual part number and description, which may be assembled by any maintenance level.

b. CODE "A1" is applied to assemblies made up of two or more parts, at least one of which is purchased and carries an individual part number and description, which may be assembled only by activities having depot facilities.

1-31. CODE "X" PARTS CONSIDERED IMPRACTICABLE FOR MANUFACTURE OR PROCUREMENT.

a. CODE "X" is applied to main structural members or similar parts which, if required, would suggest extensive repair. The need of a part or parts CODED "X" (wing spares, center section structure, etc.) should normally result in a recommendation to retire the article from service.

b. CODE "X1" is applied to parts for which procurement of the next larger assembly so coded "P1" is justified; e. g. an integral detail part such as a welded segment inseparable from its assembly, a part machined in a matched set, or a part of an assembly, which if required, would suggest extensive reconditioning of each assembly.

c. CODE "X2" is applied to parts which are not procured for stock, but may be acquired for use through salvage and reclamation. Activities requiring such parts shall attempt to obtain from salvage; if not obtainable from salvage, such parts shall be requisitioned through normal supply channels with supporting justification. Repeated request shall justify change in code to "P1", if considered economical to procure and stock such parts.

1-32. CODE * PARTS NOT PROCURED, MANUFACTURED OR STOCKED. CODE * is applied to installation drawings, diagrams, instruction sheets, field service drawing numbers, and obsolete parts which cannot be procured or manufactured.

1-33. REFERENCE DESIGNATION INDEX.

1-34. In Section IV the parts are listed in the alphanumerical order of reference designations.

1-35. FIGURE AND INDEX NUMBER.

1-36. Each listed part is assigned an index number on one of the drawings in the Group Assembly Parts List. These figure and index numbers are given in the second column

1-37. CLASS CODE OR STOCK NUMBER.

1-38. STOCK NUMBER COLUMN. The policy of including and updating stock number information in IPB manuals has been discontinued. Purging of stock numbers will be accomplished on a phased basis as changes are made to IPB pages to add or change other required information. See S-00-1-1, USAF Master Cross-Reference Index for converted part number to stock number information.

1-39. PART NUMBER.

1-40. The fourth column contains the AN standard or manufacturer's part number, which is the same as that in Section II, Group Assembly Parts List and Section III, Numerical Index.

1-41. HOW TO USE THE ILLUSTRATED PARTS BREAKDOWN.

1-42. TO FIND THE PART NUMBER IF THE MAJOR ASSEMBLY IS KNOWN.

a. Locate the part in the illustration and find its index number.

b. Refer to the Group Assembly Parts List, Section II, and locate the figure and index number in the first column; the part number will then be found in the second column.

1-43. TO FIND THE ILLUSTRATION IF THE PART NUMBER IS KNOWN.

1-44. Refer to the Numerical Index, Section III, and find the part number in the second column. The figure and index number in the adjoining column refers to the location of the part in the illustration and in the Group Assembly Parts List.

1-45. TO FIND THE PART NUMBER IF THE REFERENCE DESIGNATION IS KNOWN.

1-46. Refer to the Reference Designation Index, Section IV, where the part number will be found in the fourth column.

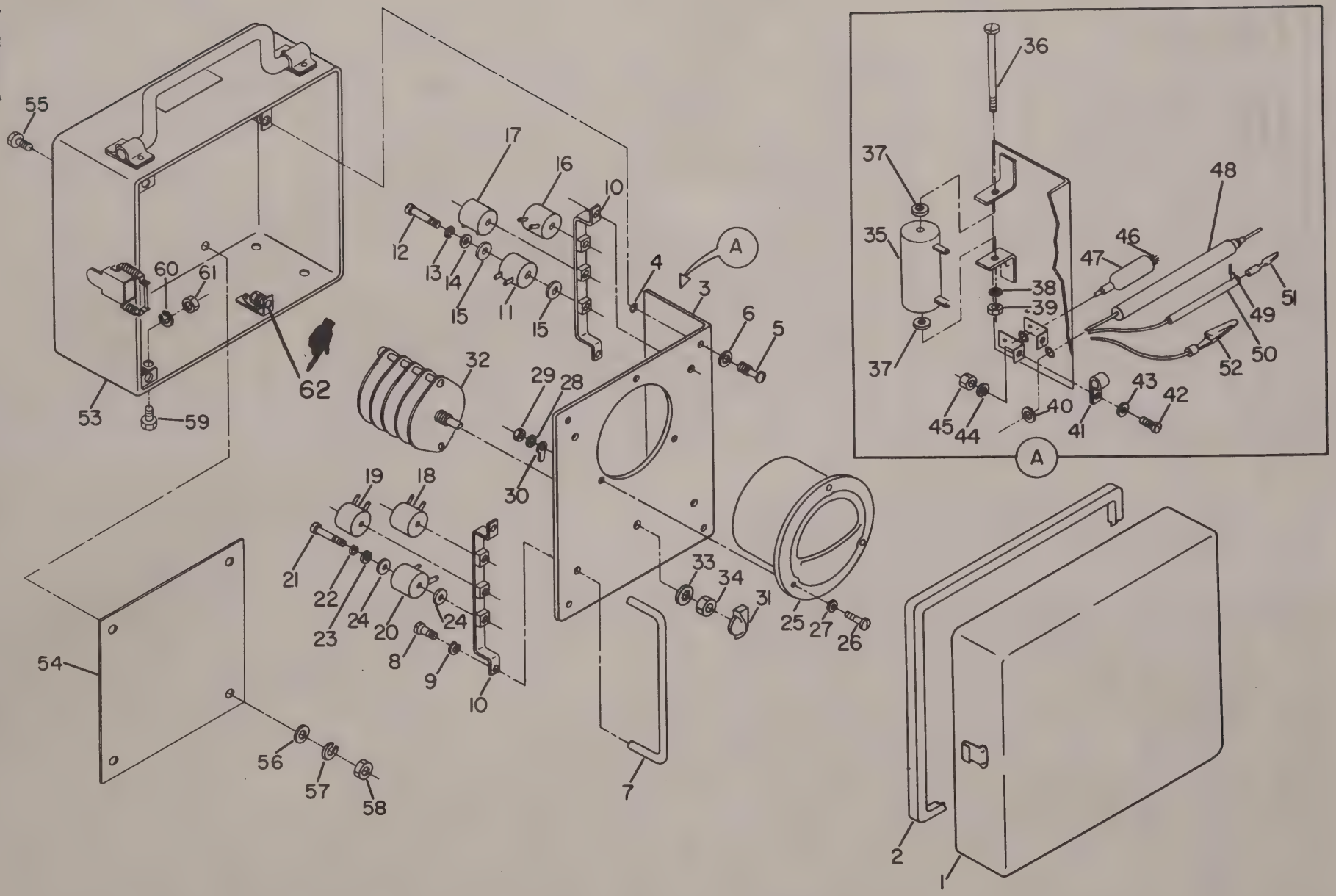

Figure 1. Radio Test Set AN/URM-76A

SECTION II

GROUP ASSEMBLY PARTS LIST

FIG. & INDEX NO.	PART NO.	DESCRIPTION 1 2 3 4 5 6 7	UNITS PER ASSY	USABLE ON CODE
1-	364939-501	TEST SET, Radio, AN/URM-76A (02734)	1	
-1	644433-501	. COVER (02734)	1	
-2	485407-501	. GASKET (02734)	1	
-3	644487-501	. PANEL, Test meter (02734)	1	
		(ATTACHING PARTS)		
-4	AN123857	. PACKING, PREFORMED	4	
-5	8945370-1	. SCREW, EXTERNALLY RELIEVED BODY, No. 10-24NC (02734)	4	
-6	82278-156	. WASHER, FLAT, Brs, 0.500 od by 0.219 id by 0.030 in. min, 0.054 in. max thk (02734)	4	
		----*----		
-7	464840-2	. HANDLE (02734)	2	
		(ATTACHING PARTS)		
-8	990386-161	. SCREW, MACHINE, Pan hd, no. 6-32NC by 7/16 in. lg (02734)	4	
-9	93620-157	. WASHER, LOCK, Split helical ring, no. 6 (02734). .	4	
		----*----		
-10	8412827-501	. BRACKET, Mounting, resistor (02734)	2	
-11	RB18AE30002F	. RESISTOR (MIL-R-93A)	1	
		(ATTACHING PARTS)		
-12	990386-178	. SCREW, MACHINE, Pan hd, no. 6-32NC by 1-5/8 in. lg (02734)	1	
-13	93620-157	. WASHER, LOCK, Split helical ring, no. 6 (02734). .	1	
-14	82278-154	. WASHER, FLAT, Brs, 0.375 od by 0.156 id by 0.030 in. min, 0.054 in. max thk (02734)	1	
		----*----		
-15	8893977-3	. WASHER, NONMETALLIC (02734)	2	
-16	RB16AE97001F	. RESISTOR (MIL-R-93A)	1	
-17	RB16AE27001F	. RESISTOR (MIL-R-93A)	1	
-18	RB16AE15000F	. RESISTOR (MIL-R-93A)	1	
-19	RB16AE330R0F	. RESISTOR (MIL-R-93A)	1	
-20	RB16AE13000F	. RESISTOR (MIL-R-93A)	1	
		(ATTACHING PARTS)		
-21	990386-171	. SCREW, MACHINE, Pan hd, no. 6-32NC by 1.0 in. lg (02734)	5	
-22	93620-157	. WASHER, LOCK, Split helical ring, no. 6 (02734). .	5	
-23	82278-154	. WASHER, FLAT, Brs, 0.375 od by 0.156 id by 0.030 in. min, 0.054 in. max thk (02734)	5	
-24	8893977-3	. WASHER, NONMETALLIC (02734)	10	
		----*----		
-25	8817941-1	. AMMETER, Special scale, 1,700 ohms (altered from MR35W050DCUAR) (02734)	1	

FIG. & INDEX NO.	PART NO.	DESCRIPTION 1 2 3 4 5 6 7	UNITS PER ASSY	USABLE ON CODE
		(ATTACHING PARTS)		
1-26	990386-665	. SCREW, MACHINE, Pan hd, no. 6-32NC by 5/8 in. lg (02734)	3	
-27	82278-154	. WASHER, FLAT, Brs, 0.375 od by 0.156 id by 0.030 in. min, 0.054 in. max thk (02734)	3	
-28	93620-157	. WASHER, LOCK, Split helical ring, no. 6 (02734)	2	
-29	57435-154	. NUT, PLAIN, HEX, No. 6-32NC (02734)	3	
		----*----		
	MR35W050DCUAR	. . AMMETER (MIL-M-10304) (Required for 8817941-1 alteration)	1	
-30	30042-1	. TERMINAL, LUG (02734)	1	
-31	258869-2	. KNOB (02734)	1	
-32	57140-RH4	. SWITCH, ROTARY, 4 pole (76854) (02734 part no. 471114-1)	1	
		(ATTACHING PARTS)		
-33	93611-122	. WASHER, LOCK, Internal tooth, 3/8 in. (02734) . .	1	
-34	59149-156	. NUT, PLAIN, HEX, 3/8-32NEF (02734)	1	
		----*----		
-35	RB19AE10003F	. RESISTOR (MIL-R-93A)	1	
		(ATTACHING PARTS)		
-36	887091-1	. SCREW, MACHINE, Rh, no. 6-32NC by 2-1/2 in. lg (02734)	1	
-37	8893977-3	. WASHER, NONMETALLIC (02734)	2	
-38	93620-157	. WASHER, LOCK, Split helical ring, no. 6 (02734) .	1	
-39	57435-154	. NUT, PLAIN, HEX, No. 6-32NC (02734)	1	
		. ----*----		
-40	57421-36	. GROMMET, RUBBER, 0.2510 by 0.5000 by 0.25 thk (02734)	2	
-41	6	. CLAMP, LOOP (95987) (02734 part no. 8811154-28)	2	
		(ATTACHING PARTS)		
-42	990386-161	. SCREW, MACHINE, Pan hd, no. 6-32NC by 7/16 in. lg (02734)	2	
-43	82278-154	. WASHER, FLAT, Brs, 0.375 od by 0.156 id by 0.030 in. min, 0.054 in. max thk (02734)	2	
-44	93620-157	. WASHER, LOCK, Split helical ring, no. 6 (02734) . .	2	
-45	82244-151	. NUT, PLAIN, HEX, No. 6-32NC (02734)	2	
		----*----		
	750282-501	. CABLE ASSEMBLY, SPECIAL PURPOSE, ELECTRICAL, Voltage point (02734)	1	
-46	M9P-LRH19	. . CONNECTOR, PLUG, ELECTRICAL (81312) (02734 part no. 737859-9)	1	
-47	8861007-1	. . HANDLE (02734)	1	
	750281-502	. CABLE ASSEMBLY, SPECIAL PURPOSE, ELECTRICAL, Test probe (02734)	1	
-48	302R-RED	. . PROBE, ELECTRICAL FIELD, INTERFERENCE MEASURING (83330) (02734 part no. 8813936-1)	1	
	750281-503	. CABLE ASSEMBLY, SPECIAL PURPOSE, ELECTRICAL, Test probe, hi-impedance (02734)	1	
-49	8866747-1	. . PIN, STRAIGHT, HEADLESS (02734)	1	
-50	8861013-1	. . PROBE, ELECTRICAL FIELD, INTERFERENCE MEASURING (02734)	1	
-51	892308-1	. . SLEEVE, Contact (02734)	1	
	750281-501	. CABLE ASSEMBLY, SPECIAL PURPOSE, ELECTRICAL, Test clip (02734)	1	
-52	60-CHS	. . CLIP, ELECTRICAL (76545) (02734 part no. 8927563-1)	1	
-53	645682-501	. CASE (02734)	1	

FIG. & INDEX NO.	PART NO.	DESCRIPTION 1 2 3 4 5 6 7	UNITS PER ASSY	USABLE ON CODE
1-54	8415749-1	. CHART, SCHEMATIC LABEL, Laminated plastic (02734) (ATTACHING PARTS)	1	
-55	8827374-2	. FOOT, CASE, brass, 4-40 thread, 0.4375 lg. (02734)	4	
-56	82278-153	. WASHER, FLAT, brass, 0.281 OD by 0.12010 by 0.020 min 0.032 max thk (02734)	4	
-57	93620-155	. WASHER, LOCK, split helical ring, No. 4 (02734)	4	
-58	57435-153	. NUT, PLAIN, HEX, Nkl. plate 4-40 (02734)	4	
		----*----		
-59	8827374-4	. FOOT, CASE, brass, 4-40 thread, 0.5625 lg. (02734) (ATTACHING PARTS)	6	
-60	93620-155	. WASHER, LOCK, split helical ring, No. 4 (02734)	6	
-61	57435-153	. NUT, PLAIN, HEX, Nkl. plate 4-40 (02734)	6	
-62	22NA7-68-02	. Elastic Stop Nut (72962)	4	

SECTION III

NUMERICAL INDEX

PART NO.	STOCK NO. CLASS CODE	STOCK NO. SERIAL OR PART NO.	FIG. AND INDEX NO.	QTY PER ART.	SOURCE CODE
[illegible]3857	5330	263-8012	1-4	4	
[illegible]35W050DCUAR	6625	684-5851	1-29	1	
M9P-LRH19	5935	204-9350	1-46	1	
RB16AE13000F	5905		1-20	1	
RB16AE15000F	5905	295-5956	1-18	1	
RB16AE27001F	5905	643-5966	1-17	1	
RB16AE330R0F	5905	202-0542	1-19	1	
RB16AE97001F	5905		1-16	1	
RB18AE30002F	5905	643-5965	1-11	1	
RB19AE10003F	5903	644-5473	1-35	1	
22NA7-68-02			1-62	4	
258869-2	5355	688-5770	1-31	1	
30042-1	5940	657-2970	1-30	1	
364939-501			1-	1	
302R-RED	6625	648-8409	1-48	1	
464840-2			1-7	2	
471114-1			(See 57140-RH4)		
485407-501	6625	612-2072	1-2	1	
57140-RH4	5930	639-4188	1-32	1	
57421-36	5325	685-6573	1-40	2	
57435-153	5310	685-2074	1-58	10	
			1-61		
57435-154	5310	596-4955	1-29	6	
			1-39		
59149-156	5310	297-8884	1-34	1	
6	5340	209-8330	1-41	2	
60-CHS	5940	501-4365	1-52	1	
644433-501			1-1	1	
[illegible]487-501			1-3	1	
[illegible]82-501			1-53	1	
[illegible]9-9			(See M9P-LRH19)		
[illegible]4-151			1-45	2	
82278-153	5310	186-7371	1-56	4	
82278-154	5310	685-6945	1-14	11	
			1-23		
			1-27		
			1-43		

PART NO.	STOCK NO. CLASS CODE	STOCK NO. SERIAL OR PART NO.	FIG. AND INDEX NO.	QTY PER ART.	SOURCE CODE
82278-156	5310	685-6918	1-6	4	
8412827-501			1-10	2	
8415749-1			1-54	1	
8811154-28			(See 6)		
8813936-1			(See 302R-RED)		
8817941-1			1-25	1	
8827374-2	5306	639-4416	1-55	4	
8827374-4	5340	685-0511	1-59	6	
8861007-1	5625	692-8048	1-47	1	
8861013-1	6625	539-8877	1-50	1	
8866747-1	5970	669-8849	1-49	1	
887091-1			1-36	1	
8893977-3	5330	580-3301	1-15	14	
			1-24		
			1-37		
892308-1			1-51	1	
8927563-1			(See 60-CHS)		
8945370-1			1-5	4	
93611-123			1-33	1	
93620-155	5310	685-6908	1-57	10	
			1-60		
93620-157	5310	685-6907	1-9	15	
			1-13		
			1-22		
			1-28		
			1-38		
			1-44		
990386-151			1-8	6	
			1-42		
990386-171			1-21	5	
990386-178			1-12	1	
990386-665			1-26	3	

SECTION IV

REFERENCE DESIGNATION INDEX

REFERENCE DESIGNATION	FIG. & INDEX NO.	CLASS CODE OR STOCK NO.	PART NO.
[illegible]M1801	1-25		8817941-1
[illegible]1845	1-46	5935-204-9350	M9P-LRH19
[illegible]1846	1-50		8861013-1
P1847	1-48	6625-648-8409	302R-RED
P1848	1-52	5940-501-4365	60-CHS
R1801	1-18	5905-295-5956	RB16AE15000F
R1802	1-19	5905-202-0542	RB16AE330R0F
R1803	1-17	5905-643-5966	RB16AE27001F
R1804	1-35	5903-644-5473	RB19AE10003F

REFERENCE DESIGNATION	FIG. & INDEX NO.	CLASS CODE OR STOCK NO.	PART NO.
R1805	1-11	5905-643-5965	RB18AE30002F
R1806	1-16	5905-	RB16AE97001F
R1807	1-20	5905-	RB16AE13000F
S1801	1-32		471114-1
W1801	1-45		750282-501
W1802	1-48		750281-503
W1803	1-47		750281-502
W1804	1-51		750281-501

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TECHNICAL MANUAL

ILLUSTRATED PARTS BREAKDOWN

TEST SET, RADIO AN/URM-76A

(WELEX ELECTRONICS)

THIS REVIEW TITLE PAGE REPLACES TITLE PAGE DATED 15 APRIL 1961

PUBLISHED UNDER AUTHORITY OF THE SECRETARY OF THE AIR FORCE

AFLC RAFB,GA

15 APRIL 1961

REVIEWED AND CURRENT ON 14 JUNE 1972

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SECTION I
INTRODUCTION

1-1. GENERAL.

1.2 This Illustrated Parts Breakdown lists and describes the parts for the Radio Test Set, AN/URM-76A, part number 01-11-100, manufactured by the Welex Electronics Corporation, Washington, D. C. and is divided into four sections.

1-3. GROUP ASSEMBLY PARTS LIST.

4-1. The Group Assembly Parts List, Section II, consists of the complete test set listed in one main group broken down into its assemblies, subassemblies, detail parts and attaching parts.

1-5. FIGURE AND INDEX NUMBER.

1-6. Parts are identified by an index number appearing in the illustration of the assembly. These numbers are arranged in the first column in their natural order, which is also the correct order of disassembly.

1-7. PART NUMBER.

1-8. The manufacturer's part number is given in the second column. Prime manufacturer's part numbers are listed, except where more than one manufacturer is involved. The second manufacturer's code and part number is placed in the description column, parenthetically, immediately following the listing for the part.

1-9. DESCRIPTION.

1-10. The part descriptions are arranged in accordance with Federal Item Identifying Guide for Cataloging Handbook H-6-1. The component or major assem bly is listed under numeral 1, and each assembly, subassembly or part is indented in the order of its relationship to the preceding assembly, subassembly or part. For example, all items under numeral 3 are parts of the item listed under numeral 2 directly above (exclusive of attaching parts).

-11. Attaching parts are listed immediately following

1-12. VENDOR'S CODE.

the item they attach and have the same indentation. A separation symbol (——*——) follows the listing of the attaching parts to distinguish them from the subsequent listing of items with the same or subordinate indentation.

1-13. The complete listing of all vendors and their codes used in the description column is given immediately following.

CODE	VENDOR
11145	WELEX ELECTRONICS CORPORATION Washington, D.C.
38315	MARION ELECTRICAL INSTRUMENT CO. Manchester, New Hampshire
70485	ATLANTIC INDIA RUBBER WORKS, INC. Chicago, Illinois
71002	BIRNBACK RADIO CO. New York, New York
76854	OAK MANUFACTURING CO. Chicago, Illinois
80035	WINCHESTER ELECTRONICS CO. New York, New York
83330	HERMAN H. SMITH, INC. Brooklyn, New York
96918	KING ELECTRONICS CO., INC. MICROWAVE DIVISION Tuckahoe, New York

1-14. UNITS PER ASSEMBLY.

1-15. The quantities listed in the "Units per Assy." column is the quantity required at that particular location. To obtain the quantity required for the complete unit, refer to the Numerical Index, Section III.

1-16. USABLE ON CODE.

1-17. The column has been left blank since all assemblies and components are used on all equipments.

1-18. NUMERICAL INDEX.

1-19. The Numerical Index, Section III, is arranged in the alphabetical and numerical order of part numbers; that is, those parts with letter prefixes are listed first, followed by the plain numbered parts in natural order moving one column at a time from left to right. The letter O is treated as a numeral zero. A part listed as "No Number" or "Coml" in the Group Assembly Parts List is listed in sequences considering the identifying noun as the part number.

1-20. CLASS CODE OR STOCK NUMBERS.

1-21. Class Codes and/or Stock Numbers have been assigned by the Procuring Agency.

1-22. FIGURE AND INDEX NUMBER

1-23. The third column of the Numerical Index lists all figures in which the part appears, together with pertinent index numbers. When the part is used several times in the same assembly under different index numbers, it is listed and described each time.

1-24. QUANTITY PER ARTICLE.

1-25. The fourth column gives the quantity of each part required for the complete equipment covered in the illustrated parts breakdown. When there are several models, the entry is the total for the model having the greatest number of the parts in question.

1-26. SOURCE CODE.

1-27. Source coding as applied to the numerical index has been assigned by the Procuring Department.

1-28. CODE "P" — PARTS UNDER INVENTORY STOCK CONTROL.

a. CODE "P" is applied to parts on which usage is anticipated or known. CODE "P" parts may be requisitioned and installed by any maintenance level unless followed by the letter "D" (depot) which restricts requisition and replacement to depot level only. Restricted service manufacture is considered practicable, but only after an attempt has been made to procure from supply sources.

b. CODE "P1" is applied to parts which are very difficult, impractical, or uneconomical to manufacture. CODE "P1" parts may be requisitioned and installed by any maintenance level unless followed by the letter "D" (depot), which restricts requisition and replacement to depot level only.

1-29. CODE "M" MANUFACTURE — PARTS NOT PROCURED.

a. CODE "M" is applied to parts which are within the capabilities of any activity to manufacture. Procurement is not justified in view of relatively low usage, or storage and installation factors of these parts. Needs are to be met by local manufacturer only as required.

b. CODE "M1" is applied to parts which can be manufactured only by utilizing the capabilities of the depot. Procurement and stocking of these parts is not justified in view of their relatively low usage and installation factors. The needs of all activities are to be met through manufacture or by requisition from the nearest appropriate depot.

1-30. CODE "A" ASSEMBLY — ASSEMBLY NOT PROCURED.

a. CODE "A" is applied to assemblies made up of two or more parts, at least one of which is purchased and carries an individual part number and description, which may be assembled by any maintenance level.

b. CODE "Al" is applied to assemblies made up of two or more parts, at least one of which is purchased and carries an individual part number and description, which may be assembled only by activities having depot facilities.

1-31. CODE "X" PARTS CONSIDERED IMPRACTICABLE FOR MANUFACTURE OR PROCUREMENT.

a. CODE "X" is applied to main structural members or similar parts which, if required, would suggest extensive repair. The need of a part or parts CODED "X" (wing spares, center section structure, etc.) should normally result in a recommendation to retire the article from service.

b. CODE "X1" is applied to parts for which procurement of the next larger assembly so coded "P1" is justified; e.g. an integral detail such as a welded segment insparable from its assembly, a part machined in a matched set, or a part of an assembly, which if required, would suggest extensive reconditioning of each assembly.

c. CODE "X2" is applied to parts which are not procured for stock, but may be acquired for use through salvage and reclamation. Activities requiring such parts shall attempt to obtain from salvage; if not obtainable from salvage, such parts shall be requisitioned through normal supply channels with supporting justification. Repeated requested shall justify change in code to "P," if considered economical to procure and stock such parts.

1-32. CODE* PARTS NOT PROCURED OR STOCKED. CODE* is applied to installation drawings, diagrams, instruction sheets, field service drawing numbers, and obsolete parts which cannot be procured or manufactured.

1-33. REFERENCE DESIGNATION INDEX.

1-34. In Section IV the parts are listed in the alphanumerical order of reference designations.

1-35. FIGURE AND INDEX NUMBER.

1-36. Each listed part is assigned an index number on one of the drawings in the Group Assembly Parts List. These figure and index numbers are given in the second column.

1-37. CLASS CODE OR STOCK NUMBER.

1-38. The class code or stock number assigned by the Procuring Agency is listed in the third column.

1-39. PART NUMBER.

1-40. The fourth column contains the AN standard or manufacturer's part number, which is the same as that in Section II, Group Assembly Parts List and Section III, Numerical Index.

1-41. HOW TO USE THE ILLUSTRATED PARTS BREAKDOWN.

1-42. TO FIND THE PART NUMBER IF THE MAJOR ASSEMBLY IS KNOWN.

a. Locate the part in the illustration and finds its index number.

b. Refer to the Group Assembly Parts List, Section II, and locate the figure and index number in the first column; the part number will then be found in the second column.

1-43. TO FIND THE ILLUSTRATION IF THE PART NUMBER IS KNOWN.

1-44. Refer to the Numerical Index, Section III, and find the part number in the second column. The figure and index number in the adjoining column refers to the location of the part in the illustration and in the Group Assembly Parts List.

1-45. TO FIND THE PART NUMBER IF THE REFERENCE DESIGNATION IS KNOWN.

1-46. Refer to the Reference Designation Index, Section IV, where the part number will be found in the fourth column.

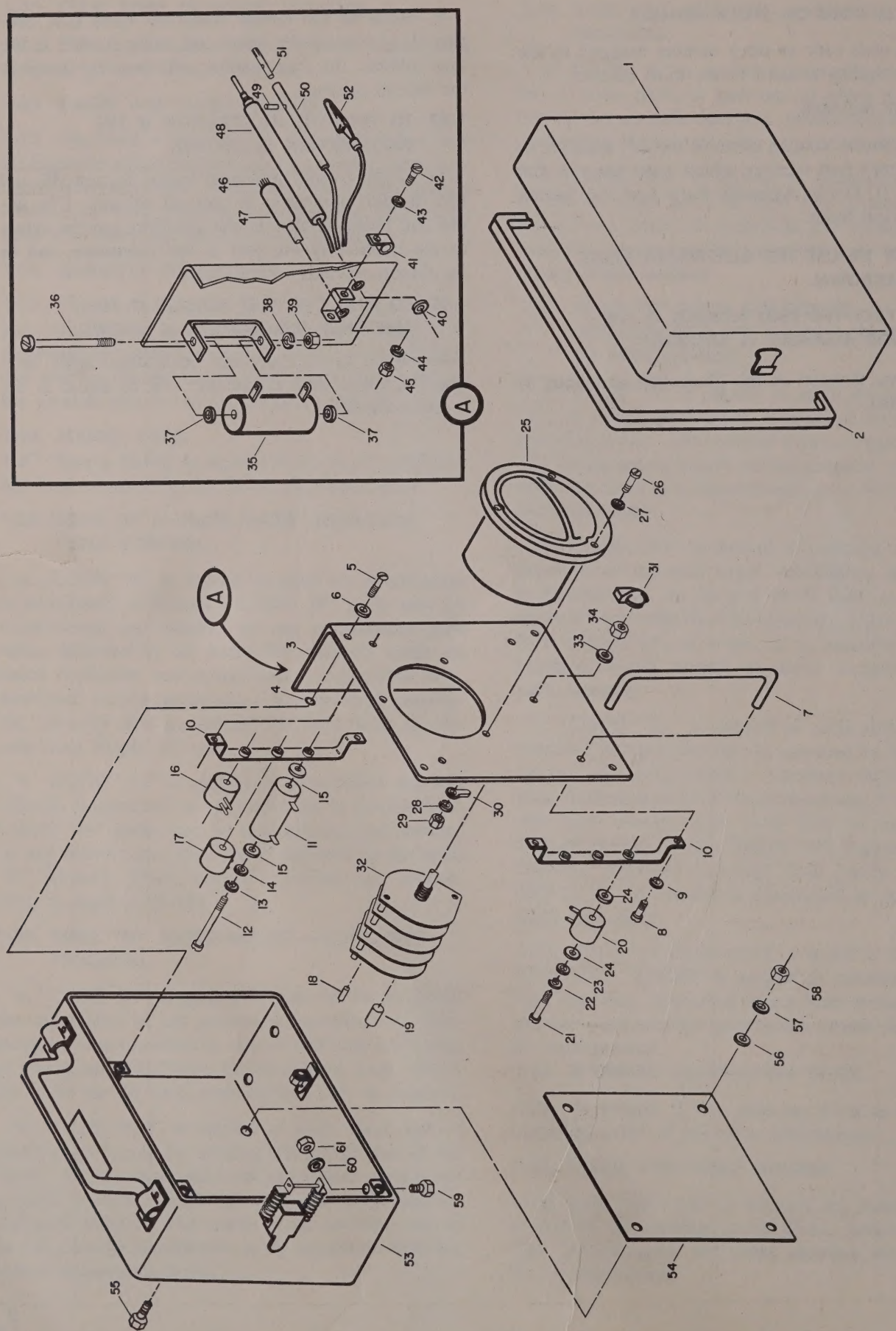

Figure 1. Radio Test Set AN/URM-76A